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ABSTRACT

The Objective-Based Assessment, Planning, and Resource Allocation System (OAPRAS) that was developed and implemented at Middlesex County College is described. The integrated self-assessment planning and budgeting system was developed in 1981. The central purpose of OAPRAS was to link resource allocation decisions to the prioritized objectives that in turn were based on institutional mission and goals, assessment of external environment affecting college operations, and assessment of the effectiveness of internal operations. The utilization of the following approaches by OAPRAS is discussed: rational and integrated management; planning, programming, and budgeting system; management by objectives; and zero-based budgeting. Attention is also directed to problems that were encountered with the new system: the need to revise departmental objectives; difficulties in proposing planning objectives and new activities (e.g., estimating personnel hours needed for noninstructional activities); and the need to reduce the budgets. Changes in the planning and budgeting system are proposed that would help staff develop clear and appropriate objectives, clarify responsibility for coordinating followup action on planning goals, and improve planning documents and forms. (SW)

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BUDGETING BY OBJECTIVES - HOW GOALS AND OBJECTIVES, OPERATIONAL ACTIVITIES AND RESOURCE ALLOCATION ARE INTEGRATED IN A PLANNING SYSTEM[1]

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[1]Presented at the 24th Annual Forum of the Association for Institutional Research, Fort Worth, Texas, May 6-9, 1984.

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Introduction

Resource allocation or budgeting is a critical management decision. In allocating varying amounts of resources to different programs and activities, an institution indicates its priorities and decisions about its future operations. However, resource allocation decisions are often backward looking, i.e., based on past allocation decisions, rather than forward looking, i.e., based on where the institution wants to be. What is even more unfortunate, budgeting focuses on inputs or resources for conducting activities, and is rarely linked to the objectives and outcomes of those activities. Incremental (or decremental) base line item budgeting, one of the most common budgeting systems, illustrates such a budgeting approach. By accepting the current base of budgeted amounts as a valid starting point, it is assumed under this budgeting system that the proportionate allocation of resources among different units of the institution was not only appropriate in the past (when last year's allocation was itself based on previous year's base, and so on), but that it will continue to be appropriate in the future.

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By conducting budgeting more or less as an independent activity, controlled by the financial division of the college, the criteria for evaluating budget line item requests become the past line item allocations, and the variances between the current and requested budget line items are justified either on the basis of increased expenditures due to inflation or salary raises, or due to the increase in the activities to be conducted, but the purposes for which those activities are conducted rarely become a matter of consideration.

Being nonprofit organizations, educational institutions do not have a "bottom line" to provide an easy yardstick to measure their success. To a small or larger extent, they are supported or at least subsidized by public funds to serve certain economic and social goals considered important by the society. Hence, the most important yardstick to assess their effectiveness is provided by the measure of the extent to which they are successful in fulfilling the purposes for which they were created and are maintained. Thus, in making its decisions to allocate resources, the management must consider directly and in detail how the allocations will impact the achievement of specific goals and objectives. However, departmental objectives and departmental budget requests appear so far apart that the gap appears unbridgeable. But, the link between the objectives and the request for resources can be found in the activities to be conducted by a department. To accomplish the given objectives, certain activities must be conducted, and to conduct those activities, certain amount of resources must be made available. Thus, by bringing together departmental objectives, activities, and specific resource requests in a meaningful way, a planning and

budgeting system can link the objectives with the resources. The Objective-based Assessment, Planning, and Resource Allocation System (OAPRAS) developed and implemented at Middlesex County College is aimed to do that.

Objective-based Assessment, Planning, and Resource Allocation System (OAPRAS)

Both as a response to the changing fiscal climate (with peaking of enrollment in Fall, 1981, the college has had the shocking experience of moving from an expansionary to more or less a flat rate of fiscal growth), and as part of a continual effort to improve the effectiveness of management in the college, a decision was made by the President to develop and implement a formal planning system. After an initial attempt to develop a stand alone planning system, it was decided to develop an integrated self-assessment planning and budgeting system.

Based on literature review, and in consultation with the National Center for Higher Education Management Systems, OAPRAS was developed. It was reviewed by the President, the Vice President for Academic and Student Affairs, and the Vice President for Finance and Administration, and the various forms developed for the system were field tested with the help of selected departments representing instructional and noninstructional areas.

Conceptual Base of OAPRAS

The central purpose of the OAPRAS is to link resource allocation decisions to the prioritized objectives (or intended outcomes) which in turn are based on institutional

mission and goals, assessment of external environment impacting the college operations, and assessment of the effectiveness of the internal operations. Without following too closely any of them, OAPRAS eclectically utilizes the concepts of rational and integrated management, Planning, Programming and Budgeting System, Management by Objectives, and Zero-based Budgeting.

1. Rational and Integrated Management

   In order to minimize the effect of personal biases and political considerations on management, efforts are made to increase the use of objective information in decision-making. This is done by impelling all departments to undertake a thorough self-assessment of their objectives, inputs, processes and outcomes, and by supplying extensive information on an annually updated basis on county demographics, high schools, labor market, student background, abilities, performance and outcomes, enrollment trends and projections, follow-up of graduates, faculty profiles, financial data, etc. Efforts are also being made to develop a comprehensive on-line Planning and Management Information System. While this may not eliminate subjectivity from decision-making as the interpretation and use of information is still subject to personal biases and inclinations, it is hoped that the quality and validity of judgements are likely to be improved by being based on timely and relevant information.

   The integrated view of management assumes that like budgeting, assessment of operations and planning for them are essential parts of a manager's responsibilities. This means that planning and assessment must be conducted by each administrative unit and not by a

central office. A central office should coordinate and facilitate these functions. Self-assessment is conducted by each division on a five-yearly cycle, and the results of this self-assessment program flow into the planning process. The planning process itself is conducted both top down and bottom up. Planning goals or strategic directions for the institution are determined centrally and conveyed to the departments for follow-up. Based on the self-assessments, planning goals, and other information (including enrollment and labor market projections) available to them, departments develop plans using the given planning forms and instructions.

2. Planning, Programming and Budgeting System (PPBS) and Management by Objectives (MBO)

PPBS emphasizes making resource allocation decisions among competing activities on the basis of prioritized objectives, and MBO, similarly, aims at improving both individual and institutional effectiveness by holding managers accountable for achieving the objectives set by them. Borrowing these concepts but not the whole paraphenalia of the implementation procedures, the primary goal of effective management is seen as ensuring that goals and objectives for the whole institution as well as for each of its subunits are clearly set and understood, and, that these objectives actively and continuously guide the operations and resource allocation decisions. OAPRAS utilizes this concept in the following manner.

A Task Force on Institutional Planning, consisting of students, faculty, and staff, representing different academic divisions and nonacademic areas, and headed by the Director of Research and Planning was appointed to develop planning goals for the college. The Task Force does this by reviewing information and reports on the external environment (county demographics, labor market data, technological changes, etc.), and internal operations (research reports, trend and outcome data, results of program self-assessment, etc.), in order to identify areas for changes and actions by the college. Based on the information available to it, the Task Force develops and recommends every year planning goals for the next planning cycle. These goals are reviewed by the College Assembly, a body occupying an important place in the governing structure of the college, and which consists of representative members from students, faculty, and administration. After approval, the goals are recommended by the Assembly to the President, and if the President, on the advice of the Planning Council, (which consists of the two Vice Presidents and the Director of Research and Planning) approves them, they are forwarded to the Board of Trustees for approval and adoption for the college. After being officially adopted by the college, the planning goals are then communicated to all the planning units (each department responsible for preparing its budget). The planning units in response to the planning goals, where appropriate, and based on the self-assessment of their operations, develop planning objectives. For introducing any significant change in their operations (additions, deletions, or alterations) planning units need to have a planning objective.

Besides the planning objectives, every planning unit already has a set of departmental (including program or curriculum) objectives which are more permanent in nature, and which are reviewed and changed as part of the five-yearly self-assessment process. What the planning process tries to do is to link the budget line item requests to these objectives through the intermediacy of proposed activities to be conducted by the department. In the planning documents, the planning units list instructional and/or noninstructional activities. For each activity, they also list the objective under which it is being conducted and the resources consumed by those activities. Thus, by reviewing the planning forms, an estimate can be made as to the resources consumed by various activities and the objectives served by them. Thus the resources consumed are linked to the objectives served.

3. Zero-based Budgeting (ZBB)

As the term implies, ZBB tries to eliminate the validity of a base line budget for future allocation decisions. Past budget allocations are seen as irrelevant to future allocations. This means that every budget line item request must be rejustified every year as if it was a new request for funding. The system is based on a good management principle in that resource requests need to be justified not on past practice but on future needs, and that current operations should not be taken for granted, but should be continuously reexamined and rejustified in view of any changes in needs and purposes of the institution, the subunit, or the clientele served. However, the need for rejustification of every line item requires a

large amount of repetitive paperwork, taxing the patience and time of busy managers. Due to its cumbersome and repetitive nature, it was seen impractical to implement a full-blown Zero-based Budgeting system. However, the concept behind the ZZB is utilized in the OAPRAS in two ways, depending upon whether existing or new activities are involved.

In the case of existing operations, each planning unit, as part of its self-assessment process, must thoroughly examine and rejustify (or alter) its objectives, and assess the effectiveness of its activities in achieving those objectives by evaluating outcomes. As this is done on a five-yearly basis, the assessment can be conducted more thoroughly and with greater enthusiasm by participants, than if it was to be done every year.

On the other hand, every new activity must be covered by a planning objective, and detailed information must be provided on its rationale, in terms of benefits to be obtained, description of actions to be taken, who will do what, how and when; information on whether alternate ways of achieving the planning objective have been examined; if the activity is not funded, what would be the consequences; what resources are needed to conduct the activities under the planning objective; the source of these resources, i.e., reallocation of funds within the department, grant, fund raising, or additional requests from the college's operational funds.

Description of OAPRAS

Self-Assessment. Every operational unit in the college must conduct a self-assessment on a five-year cycle. Detailed guidelines have been developed for the self-assessment of both instructional and noninstructional departments, and a master schedule has been prepared to indicate when each department would undertake self-assessment. The Commission on Higher Education of the Middle States Association of Colleges and Schools, the accreditating agency for the region, has not only approved the guidelines, but has allowed the college to use the self-assessment program as an alternate approach to the process of accreditation which will eliminate the need for a traditional decadel self-study and accreditation team visit. Instead, every year, the Commission on Higher Education will appoint an outside coordinator and one or more consultants with expertise in areas related to the functions of the departments undertaking self-assessment, who will visit the campus and evaluate the departments on the basis of their self-study reports. At the end of each five-yearly cycle, the coordinator will write a consolidated report, which will become the basis for accreditation decision by the Commission.

The basic difference between the traditional ten-yearly self-study and the new system is that while the former focused on an overall institutional assessment without going too much into specific program assessment, the latter primarily involves a thorough evaluation of individual programs. Internally, the results of the new self-assessment process provide the necessary input on current operations for future planning, and for bringing about the necessary changes in the operations to make them more efficient and effective.

Planning and Budgeting. In OAPRAS, the budgeting process has been essentially integrated with the planning process. Planning starts with the development and adoption of institutional planning goals as described earlier. In response to the planning goals and on the basis of their own self-assessment, the planning units develop planning objectives. A critical part of the planning process consists of listing each major instructional or noninstructional activity (for example, a course, advisement, placement counseling, registration, transcript evaluation, scheduling, contract negotiations, etc.), and citing either a departmental or planning objective under which the activity is conducted on the one hand, and the resources needed (personnel hours by type of personnel, expenses, supplies, equipment, support services, etc.) on the other hand. The resources needed to support all the activities are summarized, and entered on the budgeting forms to prepare the budget request. The information contained on the planning and budgeting forms permits one to link resources requested to objectives to be served through the activities to be conducted, thus permitting an evaluation of resources on the basis of both the activities to be conducted and the purposes for which they are conducted.

Evaluation and Approval Process. Each planning objective and each major activity listed on the planning form must be assigned a priority code (1-top priority, needs to be supported even at reduced level of funding; 2-high priority, to be supported at current level of funding; 3-highly desirable, would require increased funding; 9-support from operational funds not required) by the head of the department indicating departmental priorities, by the Dean indicating divisional priorities, and the Vice President indicating institutional priorities. Being based on

varying perspectives, these priorities can differ significantly from each other. While the lower level administrative officers can appeal and make out a case for changing the upper level priorities, the decision of the upper level administrator prevails. For trimming the budget requests, these priorities provide useful information. However, while the plans and budget requests proposed by a department can be given a lower priority, they are left intact in the planning process. A divisional plan is not a summary of the departmental plan, but a separate plan presenting the activities to be conducted by the dean's office. Departmental plans and budgets are reviewed by the deans and then by the Vice President, and the priority decisions are sent back to the departments. After this review process, the budgets are consolidated by the Budget Office. Variance between the consolidated institutional budget and revenue estimates is identified, and the process of trimming the budget request to bring them in line with the revenue estimates is undertaken.

Implementation, Problems, and Prospects

In March 1983, a workshop was held for all heads of planning units in which the integrated planning and budgeting system was introduced. Major characteristics of the system, and the rationale behind them, were explained. Instructions on how to use the planning and budgeting forms, including the procedures involved in planning, such as the setting of planning objectives and prioritizing activities, were explained. Enrollment projections by programs and courses, and the 12 planning goals developed with the help of the Task Force on Institutional Planning were supplied to the

planners so that they could respond to the goals, where necessary, by developing appropriate planning objectives. Also, supplied to the planners was an updated Data Book which contains extensive information on programs, faculty, students, finances, and facilities.

In consultation with faculty and/or staff in each department, the department heads developed their plans and budgets using the new forms. Despite the fact that it was the first year of implementation of a new system, the majority of heads of departments took the work seriously, worked diligently, and tried to complete the forms following the new procedures. As a first attempt, the planning process produced quite good information on linkages between departmental and planning objectives, planned activities, and resource requests. However, partly due to inexperience, lack of understanding, rough edges in the system, and partly due to a certain amount of disbelief that the new system could effect changes in the budgeting or decision-making process, the following problems were encountered.

1. Departmenal Objectives. In some instances, it was found that departmental and program objectives had been hurriedly put together, as they did not exist before, or existed in a form not very helpful in linking them to specific activities. It was realized that while objectives had been formulated by many departments in the past, this was the first time when these objectives were being operationalized by being related to specific operations of the departments. After attempting to link their departmental objectives to departmental activities, departments themselves realized the need for revising the objectives in order to obtain clear, relevant, and exhaustive objectives.

2. Planning Objectives. Given the limited experience and time, departments tried hard to develop appropriate planning objectives in order to propose new activities. But the attempts were not always successful. Some departments did develop planning objectives in response to the 12 planning goals, but the responses were not adequate to cover all the planning goals. Also, due to the lack of a systematic self-assessment system (the system is being implemented now) the departments had not systematically examined their operations in order to identify changes necessary to improve their operations. Also, given the tight fiscal situation, not many departments believed that resources could be made available to them for new activities.

   Even when specific and relevant planning objectives were developed, often adequate information on the activities necessary to achieve those objectives, and particularly, the indication of specific resources needed to support those activities were not made available. This was again due to the disbelief that proposing those planning activities could result in the allocation of additional resources.

3. Planned Activities. In the case of instructional departments, primary activities consist of conducting well-defined courses. It was easy for these departments to list the courses, indicate their objectives, and list faculty, professional or technical personnel hours, supplies, equipment, and services needed to conduct those courses. However, it was not easy to get similar information on noninstructional activities. First, the

departments found it difficult to segregate and define major activities conducted by them. When, after considerable discussion this was accomplished, it was found difficult to estimate how many personnel hours by type of personnel, and the amount of supplies and services were needed to conduct those activities. As the activities were not conducted as separate and distinct activities, it was difficult to allocate personnel and other kinds of resources to each individual activity. To compound the problem, the administrators did not see the utility of doing all this, particularly when this had not been done before.

It was explained to them that educational institutions being labor-intensive, personnel time was the most precious resource they possessed, and in order to make efficient use of their resources, it was necessary to adequately account for the use of personnel time.

Unfortunately, a general feeling prevails in educational institutions that the time of an employee already on the payroll is free, and the use of it does not entail any expense. For example, it is often claimed in proposing a new activity that it will not involve outlay of any resources as current employees will perform the tasks and no new persons will be hired. An awareness that personnel hours cost money is generally not there. This is evident in the hours spent in meetings of all kinds and for all purposes. Due to the traditional breakdown of instruction in units of courses carrying specific number of contact hours, faculty time is generally well-accounted for. But the same cannot be said for noninstructional employees. Hence, for any worthwhile

planning system which emphasizes efficient use of resources, good accounting of personnel time becomes an important goal. It is hoped that proper accounting of personnel time could serve three major purposes.

1. Make supervisors aware of how their resources were being spent on different activities, so that they could see whether the amount of resources spent on an activity were in keeping with the importance of the activity (in terms of achieving the desirable outcomes).

2. Knowing the amount of resources spent on different activities, supervisors could examine whether those activities could be conducted differently or whether the same objectives could be achieved through some other means.

3. If certain activities were eliminated, reduced or changed, it would help in estimating how much savings of resources could be achieved.

4. Breakdown of the Planning Process in a Budget Crisis. After the departmental and institutional budgets had been finalized on the basis of the planning process, it was found that the funds available from the state as well as from the county would fall short of the estimated amounts. It became necessary within a short period to reduce the budgets by about three hundred thousand dollars. Time was short and there was not enough information in the planning documents to be used to reach the budget reduction decisions. Through

emergency meetings of the top management, decisions were made to eliminate administrative positions, reduce enrollment in expensive programs, etc. Department heads and deans were consulted in reaching these decisions, but these decisions were reached outside the planning process.

Prospects. Learning from the experience of the first implementation of the integrated planning and budgeting system, the following changes have been identified and made to achieve better results in the second round.

1. A workshop on formulating objectives will be held to develop a common understanding and to improve the capabilities of the staff in developing clear and appropriate objectives.

2. In the first round, institutional planning goals were distributed to the department heads, and they were urged to develop appropriate planning objectives in response to those goals. However, no one in particular was held responsible to coordinate any follow-up actions on these goals. It has been decided that in the second round, each planning goal will be assigned to a senior administrator, such as a vice president or a dean, who will be responsible to see that appropriate follow up actions by departments, or where necessary by committees, take place in order to achieve those goals.

3. The planning form which requested support information on each planning objective has been restructured to make sure that all critical pieces of information necessary to evaluate the planning objective and to make the necessary resource allocation decisions are made available.

In order to remove the belief that with the college operating in a tight fiscal environment it will be pointless for the departments to propose changes or new activities, the President has repeatedly emphasized that one of the primary purposes of planning is to enable management to make appropriate budgeting decisions which are most likely to further the college's goals. This means making sure that additional resources are made available to some departments while reducing allocations to other departments in keeping with the college's priorities and goals.

4. In order to make sure that the planning documents can supply the relevant information needed to make decisions either to increase or decrease allocations, a new form was introduced in which all departments have been asked to indicate their contingency plans in order to meet two diverse situations. First, a situation in which the funds available to them in the plan year are ten percent more than the previous year, and another situation in which the reverse happens and the funds available to them are ten percent less than those available in the previous year.

The second round of planning has already started, and it can be seen that there is a greater understanding of the planning process and its rationale and utility, and that there is more hope that departments are likely to have greater input into the budgeting decisions made about them.

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